

Flips and Turns

Goals

- Draw figures that have been reflected or rotated.
- Identify the number of degrees a figure must be rotated to match its image.

Notes

To help students visualize the figures in their new positions, have them model the flips and turns by folding and rotating their papers. Encourage students to identify the line of reflection as they fold the paper and the number of degrees of rotation as they turn the paper.

Solutions to all problems in this set appear on page 71.

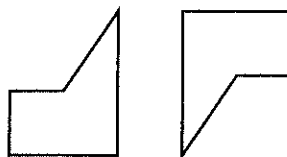
Questions to Ask

Flips and Turns 1

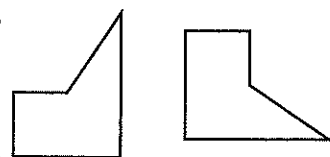
- Record a large *X* in the upper left corner of a rectangular piece of paper. Record another large *X* on the back of the paper directly behind the first *X*. Hold the paper so that the *X* is in the upper left corner. Where is the *X*? (the upper left corner)
- Watch as I flip the paper over a vertical line. *Flip the paper over its right edge*. Where is the *X* now? (the upper right corner)
- Watch as I turn the paper 90° clockwise. *Rotate the paper 90° clockwise*. Where is the *X* now? (the lower right corner)
- What does the example at the top of the page show? (how a shape was flipped over a vertical line and then turned 270° clockwise)
- What are you to do in Problem 1? (Flip the shape over the vertical line and then rotate it 180° clockwise.)
- What does *rotated* mean? (turned)

Solutions

1.



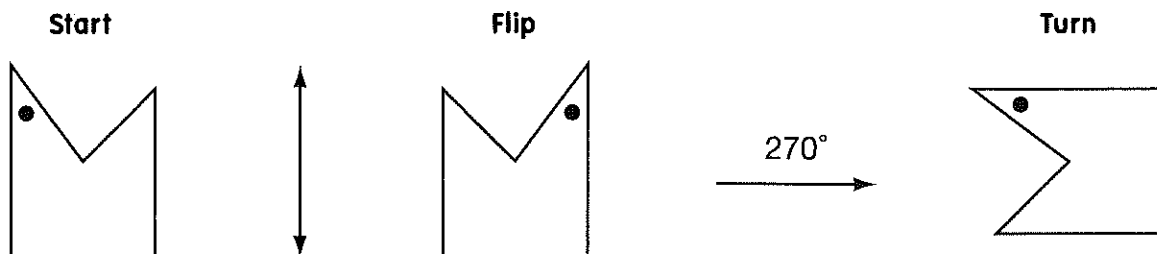
2.



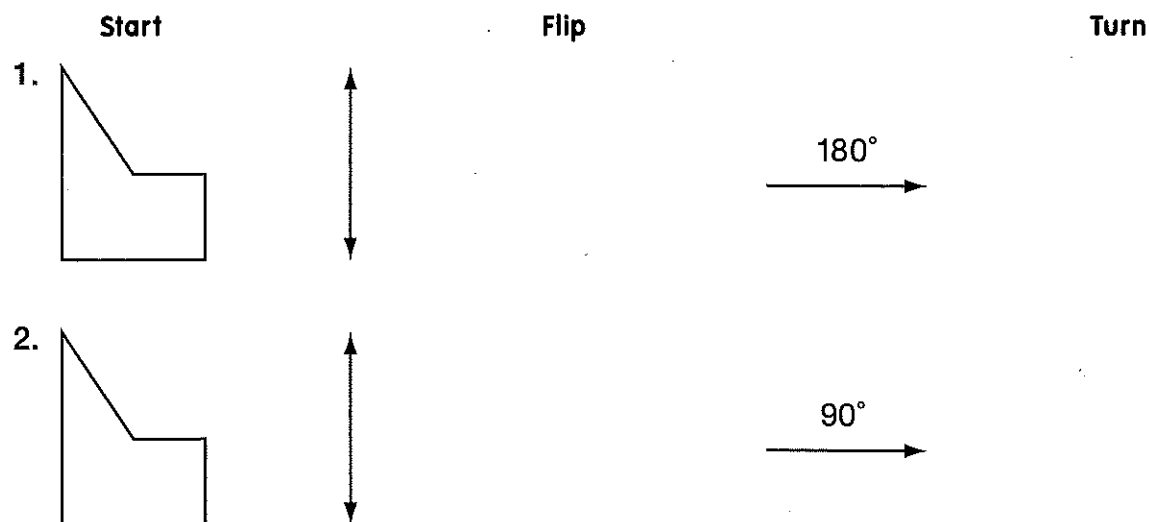
3. 90°

Name _____

Flips and Turns 1



Do the flips and turns.
Draw the shapes.
All turns are clockwise.



3. How many degrees was the figure rotated after the flip? _____°

